

WHAT IS CLAIMED IS:

1. A method for driving a plasma display panel that has a plurality of scan electrodes and sustain electrodes arranged in pairs, and a plurality of address electrodes intersecting the scan electrodes and the sustain electrodes and being electrically isolated from the scan electrodes and the sustain electrodes, the method comprising:

during a reset period,

applying to the scan electrodes a voltage of a ramp waveform rising from a first voltage to a second voltage with substantially a first slope; and

applying to the scan electrodes a voltage of a ramp waveform rising from the second voltage to a third voltage with substantially a second slope gentler than the first slope.

2. The method as claimed in claim 1, further comprising:

applying to the scan electrodes a voltage of a ramp waveform rising from the third voltage to a fourth voltage with substantially a third slope gentler than the second slope.

3. The method as claimed in claim 1, further comprising:

before applying to the scan electrodes a voltage of a ramp waveform rising from a first voltage to a second voltage with substantially a first slope, applying to the scan electrodes an erasing voltage of a ramp waveform erasing wall charges formed in a sustain period.

4. A method for driving a plasma display panel that has a plurality of scan electrodes and sustain electrodes arranged in pairs, and a plurality of address electrodes intersecting the scan electrodes and the sustain electrodes and being electrically isolated from the scan electrodes and the sustain electrodes, the method comprising;

during a reset period,

applying to the scan electrodes a voltage of a ramp waveform falling from a first voltage to a second voltage with substantially a first slope; and

applying to the scan electrodes a voltage of a ramp waveform falling from the second voltage to a third voltage with substantially a second slope gentler than the first slope.

5. The method as claimed in claim 4, further comprising:

applying to the scan electrodes a voltage of a ramp waveform falling from the third voltage to a fourth voltage with substantially a third slope gentler than the second slope.

6. An apparatus for driving a plasma display panel that has a plurality of scan electrodes and sustain electrodes arranged in pairs, and a plurality of address electrodes intersecting the scan electrodes and the sustain electrodes and being electrically isolated from the scan electrodes and the sustain electrodes, the apparatus comprising;

a first capacitor and a second capacitor coupled to a first voltage and a second voltage, respectively, the first capacitor and the second capacitor

charged to a third voltage and a fourth voltage, respectively;

a first rising ramp switch coupled to one terminal of the first capacitor, for applying a voltage of a ramp waveform rising with substantially a first slope to the scan electrode;

5 a second rising ramp switch coupled to one terminal of the second capacitor, for applying a voltage of a ramp waveform rising with substantially a second slope to the scan electrodes;

a first falling ramp switch for applying a voltage of a ramp waveform falling with substantially a third slope to the scan electrodes; and

10 a second falling ramp switch coupled between the one terminal of the first falling ramp switch and a fifth voltage, for applying a voltage of a ramp waveform falling with substantially a fourth slope to the scan electrodes.

15 7. The apparatus as claimed in claim 6, wherein the first voltage is a voltage high enough to uniformly redistribute wall charges of each cell of the plasma display panel minus the sum of a sustain voltage and the second voltage.

20 8. The apparatus as claimed in claim 6, wherein the third voltage is a voltage corresponding to the difference between the first and fifth voltages, and the fourth voltage is a voltage corresponding to the difference between the second and fifth voltages.

9. The apparatus as claimed in claim 6, wherein the fifth voltage is a

ground voltage.

10. The apparatus as claimed in claim 6, wherein the first and second rising ramp switches and the first and second falling ramp switches include
5 MOS transistors each having a body diode, each switch having a capacitor coupled between the gate and drain thereof, respectively.

11. The apparatus as claimed in claim 6, wherein the second slope is gentler than the first slope, and the fourth slope is gentler than the third slope.

10 12. A method for driving a plasma display panel that has a plurality of scan electrodes and sustain electrodes arranged in pairs, and a plurality of address electrodes intersecting the scan electrodes and the sustain electrodes and being electrically isolated from the scan electrodes and the sustain
15 electrodes, the method comprising;

charging a first capacitor with a first voltage and a second capacitor with a second voltage;

supplying a substantially constant first current to the scan electrodes through the first capacitor, and increasing a voltage of the scan electrodes by
20 the first voltage from a third voltage in a first slope;

supplying a substantially constant second current to the scan electrodes through the first and second capacitors, and increasing the voltage of the scan electrodes by the fourth voltage in a second slope;

decreasing the voltage of the scan electrodes to a fifth voltage through

the second capacitor;

recovering a substantially constant third current from the scan electrodes, and decreasing the voltage of the scan electrodes to a sixth voltage in a third slope; and

5 recovering a substantially constant fourth current from the scan electrodes, and decreasing the voltage of the scan electrodes to a seventh voltage in a fourth slope.

13. The method as claimed in claim 12, wherein the third voltage is a
10 sustain voltage, and the seventh voltage is a ground voltage.

14. The method as claimed in claim 12, wherein the second slope is gentler than the first slope, and the fourth slope is gentler than the third slope.

15. An apparatus for driving a plasma display panel that has a plurality
15 of scan electrodes and sustain electrodes arranged in pairs, and a plurality of address electrodes intersecting the scan electrodes and the sustain electrodes and being electrically isolated from the scan electrodes and the sustain electrodes, the apparatus comprising;

20 a first capacitor for charging a third voltage when one terminal thereof is coupled to a first voltage and an other terminal of the first capacitor is coupled to a second voltage;

a second capacitor and a third capacitor for respectively charging a fourth voltage and a fifth voltage;

a first rising ramp switch formed in a path between a sixth voltage and the third capacitor, for increasing a voltage of the scan electrodes in a ramp waveform having substantially a first slope;

a second rising ramp switch formed in a path generated by the first rising ramp switch, the second capacitor, and the third capacitor, for increasing the voltage of the scan electrodes in a ramp waveform having substantially a second slope;

a first falling ramp switch formed in a path between the scan electrodes and the other terminal of the first capacitor, for decreasing the voltage of the scan electrodes in a ramp waveform having substantially a third slope; and

a second falling ramp switch formed in a path between the second voltage and the one terminal of the first capacitor, for decreasing the voltage of the scan electrodes in a ramp waveform having substantially a fourth slope.

16. The apparatus as claimed in claim 15, wherein the first voltage is a voltage being half a sustain voltage, and the second voltage is a ground voltage.

17. The apparatus as claimed in claim 15, wherein the second slope is gentler than the first slope, and the fourth slope is gentler than the third slope.

18. A method for driving a plasma display panel that has a plurality of scan electrodes and sustain electrodes arranged in pairs, and a plurality of address electrodes intersecting the scan electrodes and the sustain electrodes and being electrically isolated from the scan electrodes and the sustain

electrodes, the method comprising:

charging a first capacitor having one terminal thereof selectively coupled to a first voltage and a second voltage, a second capacitor, and a third capacitor with a third voltage, a fourth voltage, and a fifth voltage, respectively, and the third voltage corresponding to a difference between the first voltage and the second voltage;

applying the second voltage to the scan electrodes through the third capacitor to change a voltage of the scan electrodes to a sixth voltage;

supplying a substantially constant first current to the scan electrodes through a seventh voltage and the capacitor to increase the voltage of the scan electrodes to an eighth voltage in a ramp waveform having a first slope;

supplying a substantially constant second current to the scan electrodes through the seventh voltage and the second and third capacitors to increase the voltage of the scan electrodes to a ninth voltage in a ramp waveform having a second slope;

decreasing the voltage of the scan electrodes to the tenth voltage through the second and first capacitors while one terminal of the first capacitor is coupled to the first voltage;

recovering a substantially constant third current to the first voltage from the scan electrodes through the first capacitor while one terminal of the first capacitor is coupled to the first voltage, to decrease the voltage of the scan electrodes to an eleventh voltage in a ramp waveform having a third slope; and

recovering a substantially constant fourth current to the second voltage from the scan electrodes while one terminal of the first capacitor is coupled to

the second voltage, to decrease the voltage of the scan electrodes to a twelfth voltage in a ramp waveform having a fourth slope.

19. The method as claimed in claim 18, wherein the second slope is
5 gentler than the first slope, and the fourth slope is gentler than the third slope.

20. The method as claimed in claim 18, wherein the first voltage is a voltage being half a sustain voltage, and the second voltage is a ground voltage.

10 21. The method as claimed in claim 18, the sixth voltage being the sum of the second and fifth voltages, the eighth voltage being the sum of the fifth and seventh voltages, the ninth voltage being the sum of the seventh, fourth, and fifth voltages, the tenth voltage being the sum of the second and fourth voltages, the eleventh voltage being the first voltage minus the third voltage,
15 and the twelfth voltage being the second voltage minus the third voltage.